Material Safety Data Sheet

Section 1. Chemical Product and Company Identification

Common Name/Trade Name: Dinonyl Phthalate

Manufacturer: SPECTRUM LABORATORY PRODUCTS INC.
14422 S. SAN PEDRO STREET
GARDENA, CA 90248

Commercial Name(s): Not available.

Synonym: 1,2-Benzenedicarboxylic acid, dinonyl ester; Bisoflex 91; Bisoflex DNP; Di-n-nonyl phthalate; Unimoll DN

Chemical Name: Phthalic acid, dinonyl ester

Chemical Family: Not available.

Chemical Formula: C26-H42-O4

Supplier: SPECTRUM LABORATORY PRODUCTS INC.
14422 S. SAN PEDRO STREET
GARDENA, CA 90248

Catalog Number(s): D2698

CAS#: 84-76-4

RTECS: T11800000

TSCA: TSCA 8(b) inventory: Dinonyl Phthalate

CI#: Not available.

IN CASE OF EMERGENCY
CHEMTREC (24hr) 800-424-9300
CALL (310) 516-8000

Section 2. Composition and Information on Ingredients

Exposure Limits

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS #</th>
<th>TWA (mg/m³)</th>
<th>STEL (mg/m³)</th>
<th>CEIL (mg/m³)</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Dinonyl Phthalate</td>
<td>84-76-4</td>
<td></td>
<td></td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

Toxicological Data on Ingredients: Not applicable.

Section 3. Hazards Identification

Potential Acute Health Effects: Slightly hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of ingestion, of inhalation.

Potential Chronic Health Effects:

- CARCINOGENIC EFFECTS: Not available.
- MUTAGENIC EFFECTS: Not available.
- TERATOGENIC EFFECTS: Not available.
- DEVELOPMENTAL TOXICITY: Not available.

Repeated or prolonged exposure is not known to aggravate medical condition.

Continued on Next Page
### Section 4. First Aid Measures

<table>
<thead>
<tr>
<th><strong>Eye Contact</strong></th>
<th>Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Skin Contact</strong></td>
<td>Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.</td>
</tr>
<tr>
<td><strong>Serious Skin Contact</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td>If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.</td>
</tr>
<tr>
<td><strong>Serious Inhalation</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Ingestion</strong></td>
<td>Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.</td>
</tr>
<tr>
<td><strong>Serious Ingestion</strong></td>
<td>Not available.</td>
</tr>
</tbody>
</table>

### Section 5. Fire and Explosion Data

| **Flammability of the Product** | May be combustible at high temperature. |
| **Auto-Ignition Temperature** | Not available. |
| **Flash Points** | CLOSED CUP: 216°C (420.8°F). |
| **Flammable Limits** | Not available. |
| **Products of Combustion** | These products are carbon oxides (CO, CO2). |
| **Fire Hazards in Presence of Various Substances** | Slightly flammable to flammable in presence of open flames and sparks, of heat. |
| **Fire Fighting Media and Instructions** | SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet. |
| **Special Remarks on Fire Hazards** | When heated to decomposition it emits acrid smoke and irritating fumes. |
| **Special Remarks on Explosion Hazards** | Not available. |

### Section 6. Accidental Release Measures

| **Small Spill** | Absorb with an inert material and put the spilled material in an appropriate waste disposal. |
| **Large Spill** | Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities. |

*Continued on Next Page*
Section 7. Handling and Storage

Precautions
Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/vapor/spray. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents.

Storage
Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8. Exposure Controls/Personal Protection

Engineering Controls
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection
Safety glasses or Splash Goggles. Synthetic apron or Lab Coat. Gloves (impervious). Because of the very low vapor pressure of this substance, respiratory protection is not normally required during usual handling at ambient temperatures. A respirator may be required if material is heated or if handling of material generates mist or vapor and if ventilation is inadequate.

Personal Protection in Case of a Large Spill
Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits
TWA: 5 (mg/m³) [United Kingdom (UK)]
Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical state and appearance
Liquid. (Oily liquid.)

Odor
Odorless.

Molecular Weight
418.62 g/mole

Taste
Not available.

Color
Colorless.

pH (1% soln/water)
Not applicable.

Boiling Point
413°C (775.4°F)

Melting Point
Not available.

Critical Temperature
Not available.

Specific Gravity
0.972 (Water = 1)

Vapor Pressure
<0.1 kPa or 1 mm Hg (@ 20°C)
1 mm Hg @ 205 deg. C.

Vapor Density
14.44 (Air = 1)

Volatility
Not available.

Odor Threshold
Not available.

Water/Oil Dist. Coeff.
The product is more soluble in oil; log(oil/water): >2.2

Ionicity (in Water)
Not available.

Dispersion Properties
Not available.

Solubility
Insoluble in cold water, hot water.
### Section 10. Stability and Reactivity Data

<table>
<thead>
<tr>
<th>Stability</th>
<th>The product is stable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instability Temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Conditions of Instability</td>
<td>Excess heat, incompatible materials</td>
</tr>
<tr>
<td>Incompatibility with various substances</td>
<td>Reactive with oxidizing agents.</td>
</tr>
<tr>
<td>Corrosivity</td>
<td>Not available.</td>
</tr>
<tr>
<td>Special Remarks on Reactivity</td>
<td>Not available.</td>
</tr>
<tr>
<td>Special Remarks on Corrosivity</td>
<td>Not available.</td>
</tr>
<tr>
<td>Polymerization</td>
<td>Will not occur.</td>
</tr>
</tbody>
</table>

### Section 11. Toxicological Information

<table>
<thead>
<tr>
<th>Routes of Entry</th>
<th>Absorbed through skin. Eye contact.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to Animals</td>
<td>Acute oral toxicity (LD50): 21500 mg/kg [Guinea pig] [Rat].</td>
</tr>
<tr>
<td>Chronic Effects on Humans</td>
<td>Not available.</td>
</tr>
<tr>
<td>Other Toxic Effects on Humans</td>
<td>Slightly hazardous in case of skin contact (irritant, permeator), of ingestion, of inhalation.</td>
</tr>
<tr>
<td>Special Remarks on Toxicity to Animals</td>
<td>Lethal Dose Conc/50% Kill: LD50[Rat] - Route: unreported; Dose: 18000 mg/kg (Registry of Toxic Effects of Chemical Substances)</td>
</tr>
<tr>
<td>Special Remarks on Chronic Effects on Humans</td>
<td>Not available.</td>
</tr>
<tr>
<td>Special Remarks on other Toxic Effects on Humans</td>
<td>Acute Potential Health Effects: Skin: May cause skin irritation. It can be absorbed through the skin and cause systemic effects. Eyes: May cause eye irritation. Inhalation: May cause respiratory tract irritation. Ingestion: Low order of toxicity. May cause gastrointestinal tract irritation with nausea, vomiting, diarrhea. May affect behavior/central nervous system (CNS depression, somnolence, withdrawal), metabolism (weight loss).</td>
</tr>
</tbody>
</table>

### Section 12. Ecological Information

<table>
<thead>
<tr>
<th>Ecotoxicity</th>
<th>Not available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD5 and COD</td>
<td>Not available.</td>
</tr>
<tr>
<td>Products of Biodegradation</td>
<td>Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.</td>
</tr>
<tr>
<td>Toxicity of the Products of Biodegradation</td>
<td>The product itself and its products of degradation are not toxic.</td>
</tr>
<tr>
<td>Special Remarks on the Products of Biodegradation</td>
<td>Not available.</td>
</tr>
</tbody>
</table>
Section 13. Disposal Considerations

Waste Disposal
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14. Transport Information

DOT Classification
Not a DOT controlled material (United States).

Identification
Not applicable.

Special Provisions for Transport
Not applicable.

DOT (Pictograms)

Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations
TSCA 8(b) inventory: Dinonyl Phthalate
TSCA 8(d) H and S data reporting: Dinonyl Phthalate: Effective date: 10/4/82; Sunset date: 10/4/92

California Proposition 65
Warnings
California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: No products were found.
California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found.

Other Regulations
EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances (EINECS No. 201-560-0).
Canada: Listed on Canadian Domestic Substance List (DSL).
China: Listed on National Inventory.
Japan: Listed on National Inventory (ENCS).
Korea: Listed on National Inventory (KECI).
Australia: Listed on AICS.

Other Classifications
WHMIS (Canada) Not controlled under WHMIS (Canada).
DSCL (EEC) This product is not classified according to the EU regulations.

HMIS (U.S.A.)

<table>
<thead>
<tr>
<th>Health Hazard</th>
<th>Fire Hazard</th>
<th>Reactivity</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>0</td>
<td>C</td>
</tr>
</tbody>
</table>

National Fire Protection Association (U.S.A.)

<table>
<thead>
<tr>
<th>Health Hazard</th>
<th>Flammability</th>
<th>Reactivity</th>
<th>Specific hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

WHMIS (Canada) (Pictograms)

DSCL (Europe) (Pictograms)

Continued on Next Page
**Section 16. Other Information**

<table>
<thead>
<tr>
<th>MSDS Code</th>
<th>D3471</th>
</tr>
</thead>
<tbody>
<tr>
<td>References</td>
<td>Not available.</td>
</tr>
<tr>
<td>Other Special Considerations</td>
<td>Uses: For making vinyl mixes which have to withstand heat and resist migration and extraction by detergents; plastisols and coating pastes; plasticizer.</td>
</tr>
</tbody>
</table>

Verified by Sonia Owen.  
Printed 9/12/2006.

CALL (310) 516-8000

**Notice to Reader**

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.